

**REMARKS**

Claims 1, 3-26 and 28-34 are pending after the present amendments. Claim 27 has been canceled without prejudice to further prosecution. Applicant respectfully requests reconsideration of the rejections in view of the amended claims.

**Rejections Under 35 U.S.C. § 112, Second Paragraph**

The Office rejected claims 19 and 24-33, and more particularly claims 19 and 24, under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Regarding claim 19, Applicant respectfully submits that the first and second parts of claim 19 correspond to each other. More specifically, the first part of claim 19 depends on a method of claim 17, which is dependent on various dependent claims, particularly claim 6 which sets forth a water soluble carrier macromolecule having a molecular weight in excess of 80,000 Daltons. Claim 24 has been amended for clarification. Applicants respectfully submit that amended claims 19 and 24 are definite, and request that these rejections be withdrawn.

**Rejections Under 35 U.S.C. § 102****Walker Does Not Anticipate Claim 1 Since Walker Does Not Disclose a Macromolecule Bound to a Primer**

The Office rejected claim 1 under 35 U.S.C. § 102(b) as allegedly being anticipated by Walker (U.S. patent No. 5,455,166). This rejection is respectfully traversed.

The context of both the specification and claim make it clear that the primer and macromolecule are different molecules, bound to one another. Claim 1 recites that the primer is “covalently bound to a carrier macromolecule,” indicating that two molecules are present since each molecule has a separate and specific name. Therefore, a person of ordinary skill in the art would not read claim 1 as encompassing a primer and macromolecule as a single, continuous molecule. In making the rejection the Examiner has arbitrarily divided a single structure of the claim into two structures, then re-named and assigned the new sub-structure to a different claim term in order to

find anticipation. But the law requires that claim terms be given their ordinary meaning in the absence of an indication in the specification to the contrary. *Gentex Corp. v. Donnelly Corp.*, 69 F.3d 527; 36 USPQ2d 1667 (Fed. Cir. 1995). The strained construction of the claim that the Examiner proposes does not comport with established principles of patent law. Furthermore, a fraction of a primer would not be considered a “macromolecule” by persons of ordinary skill in the art, and persons of ordinary skill would not identify Walker as disclosing a primer bound to a carrier macromolecule. Nevertheless, and solely in order to expedite prosecution, the Applicants have amended the claim to exclude nucleotide macromolecules.

For these reasons, Walker does not anticipate presently presented Claim 1, and the Examiner is respectfully requested to reconsider and withdraw the rejection.

**Bronstein Does Not Anticipate Claim 18 Because Bronstein Does Not Disclose a First Nucleic Acid Bound to a Non-Nucleotide Carrier Macromolecule And a Second Nucleic Acid Bound to a Non-Nucleotide Carrier Macromolecule**

The Examiner rejected claim 18 under 35 U.S.C. § 102(b) as allegedly being anticipated by Bronstein (U.S. patent No. 5,220,005). This rejection is respectfully traversed. As previously indicated, Bronstein discloses the presence of alkaline phosphatase on one of the nucleic acids in the hybridization, while claim 18 requires that a first nucleic acid is bound to a non-nucleotide carrier macromolecule, and a second nucleic acid is bound to a non-nucleotide carrier macromolecule. Bronstein does not disclose that a nucleic acid bound to a non-nucleotide carrier macromolecule can be detected by detecting the hybridization between the first and second nucleic acids, which is also required by the claim. Thus, claim 18 is not anticipated by Bronstein, and Applicant respectfully requests reconsideration and withdrawal of the rejection.

At p. 6, lines 10-14, the Examiner states that the previous arguments were not persuasive because claim 18 does not require that the nucleic acid is detected by the interaction between the macromolecules. But claim 18 does indeed require that both nucleic acids are bound to a non-nucleotide carrier, which is not disclosed or suggested by Bronstein. Therefore, Bronstein does not

anticipate nor render obvious claim 18. Reconsideration and withdrawal of the rejection is respectfully requested.

The Office also rejected claim 21 under 35 U.S.C. § 102(e) as allegedly being anticipated by Gold, *et al.*, (U.S. patent No. 6,011,020). Gold *et al.* describe a complex comprising one or more nucleic acids in association with PEG, which the Office indicates is a synthetic polymer having nucleophilic functional groups. (See Office Action, page 6). To expedite prosecution, claim 21 has been amended to exclude a synthetic polymer having nucleophilic functional groups as a carrier macromolecule. Thus, amended claim 21 is not anticipated and Applicant respectfully requests that this rejection be withdrawn.

#### Rejections Under 35 U.S.C. § 103

In order to establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP 2142.

#### **1. Claim 1 is rejected under 35 U.S.C. Section 103(a) as allegedly being obvious over Walker *et al.* in view of McCormick.**

As noted above, Walker does not describe a method using a primer covalently bound to a carrier molecule. Furthermore, in view of the amendment to claim 1, Walker also does not describe using a non-nucleotide carrier. The reference in Walker that the Examiner refers to with respect to alkaline phosphatase (Col. 4, line 29) actually describes a technique detecting nucleic acids using a primer labeled with alkaline phosphatase to identify a target sequence. Walker does not disclose or

suggest this technique with reference to any technique for replicating nucleic acids. Indeed, it is this type of technique (and its concomitant temperature cycling) that Walker presents his methods as supplanting.

McCormick also fails to supply the missing claim limitations, and neither Walker nor McCormick provide a motivation for their combination. For these reasons, claim 1 is not rendered obvious by the (improper) combination of Walker in view of McCormick.

**2. Claims 3, 4, 7-9, 11, and 13 are rejected under 35 U.S.C. Section 103(a) as allegedly being obvious over Walker *et al.* in view of Gold.**

Walker is discussed above. Gold fails to provide the claim limitations absent in Walker. Gold discloses a method of increasing the cellular uptake of a nucleic acid ligand having an intracellular SELEX target by associating the nucleic acid ligand with a lipophilic compound or a non-immunogenic, high molecular weight compound (Col. 5, lines 30-35). In addition to the deficiencies of Walker described above, and the failure of Gold to provide missing disclosure, no motivation is provided for combining Walker with Gold. Therefore, the present claims are not obvious over Walker in view of Gold.

**3. Additional Rejections Under 35 U.S.C. 103(a)**

The Examiner has put forth several additional rejections of various claims under 35 U.S.C. 103(a), including combinations of Walker in view of Gold, and further in view of Landegren and Barany; combinations of Walker in view of Westling (and an addition rejection further in view of Lihme); and combinations of Gold in view of Urdea.

The deficiencies of Walker and Gold have been described above. Furthermore, none of these references, nor any (inappropriate) combination of them, supplies the missing elements noted above (a requirement explained at MPEP 2142), nor provides the motivation for making the proposed combinations, for all the reasons already explained above.

It is noted that case law clearly establishes that it is error to reconstruct the claimed invention from the prior art by using the claim as a “blueprint.” When prior art references require selective combination to render obvious a subsequent invention, there must be some reason fro the combination other than the hindsight obtained from the invention itself. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132; 227 USPQ 543 (Fed. Cir. 1985). Case law also makes clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requiremen for a showing of a teaching or motivation to combine the prior art references. *Ecolochem, Inc., v. Southern California Edison Co.*, 227 F.3d 1361; 56 USPQ2d 1065 (Fed. Cir. 2000).

**CONCLUSION**

In view of the above, the pending claims are believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims, and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 577212000101. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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